



Problem of the Week

Problem D

The Dart Game

A carnival dart game has three non-overlapping circles in a rectangle. One circle has a value of 2, another has a value of 3, and the third has a value of 5. You are allowed to throw up to 10 darts, and you start the game with a running total of 0. If a dart lands in one of the circles, you add the value of the circle to the running total. If a dart does not land in one of the circles, then you do not add anything to the running total for that throw.

Suppose you have exactly 30 points after 10 throws. Let a represent the number of throws that landed in the circle with value 5, let b represent the number of throws that landed in the circle with value 3, and let c represent the number of throws that landed in the circle with value 2. Determine all possibilities for (a, b, c) .

